S1 File. Structured Assessment Instrument for Haemodialysis Centres
Study Title: Supply Chain Determinants of Treatment Interruption and Mortality in Haemodialysis Centres: A Comprehensive Analysis of Sudan's Largest State
Confidential – For Research Purposes Only
Instructions for Data Collectors: This instrument is to be completed during an in-person visit to each haemodialysis centre. Data should be gathered through direct observation, review of centre records (e.g., logbooks, stock records), and a structured interview with the centre manager or senior staff member. Please fill in all applicable fields.

Section A: Center Profile
1. Name of dialysis center (Short answer)
2. Locality (Short answer)
3. Number of operational dialysis machines (Number)
4. Number of non-functional machines (Number)
5. Average number of active patients (Number)
6. Average number of dialysis sessions per month (Number)

Section B: Machine Functionality and Maintenance
1. How many machine breakdowns occurred in the past 6 months? (Number)
2. What is the average repair duration (in days)? (Number)
3. Is there a biomedical engineer assigned to your center?
[ ] Yes
[ ] No

4. How often is preventive maintenance performed?
[ ] None
[ ] Quarterly
[ ] Monthly

5. How available are spare parts for dialysis machines?
[ ] Always
[ ] Sometimes
[ ] Rarely
[ ] Never

Section C: Availability of Dialysis Essentials (Past 6 Months)

1. Availability of Dialyser
[ ] Always
[ ] Intermittent
[ ] Rare
[ ] None

2. Availability of Bicarbonate
[ ] Always
[ ] Intermittent
[ ] Rare
[ ] None

3. Availability of Acid concentrate
[ ] Always
[ ] Intermittent
[ ] Rare
[ ] None

4. Availability of Arterial bloodline
[ ] Always
[ ] Intermittent
[ ] Rare
[ ] None

5. Average duration of stock out (days per month) (Number)
6. Main source of supply during shortage
[ ] Central supply
[ ] Donation
[ ] Local purchase
[ ] None

Section D: Availability of Supportive Medications (Past 6 Months)

1. Availability of Heparin
[ ] Always
[ ] Intermittent
[ ] Rare
[ ] None

2. Availability of Eprex (Erythropoietin)
[ ] Always
[ ] Intermittent
[ ] Rare
[ ] None

3. Availability of Sodium Chloride infusion
[ ] Always
[ ] Intermittent
[ ] Rare
[ ] None

4. Availability of Iron Dextran
[ ] Always
[ ] Intermittent
[ ] Rare
[ ] None

5. Average delay in receiving medications (days) (Number)

Section E: Service Disruption
1. How many scheduled dialysis sessions were missed in the last 6 months? (Number)
2. What was the primary reason for missed sessions?
[ ] Supply shortage
[ ] Machine failure
[ ] Power outage
[ ] Patient absence
[ ] Other (please specify)

3. Were patients referred elsewhere due to stock outs?
[ ] Yes
[ ] No

4. How many emergency dialysis sessions occur per month? (Number)

Section F: Clinical Outcomes (From Records, Last 6 Months)

1. Total number of patients on regular dialysis (Number)
2. Number of deaths among dialysis patients (Number)
3. Number of patients with improved condition (as per physician notes) (Number)
4. Number of patients transferred out (Number)
5. Number of patients lost to follow-up (Number)

Section G: Logistics and Supply Chain

1. Distance from the main supply depot (in kilometers) (Number)
2. Average time between supply deliveries (in days) (Number)
3. Frequency of transport disruption (per month) (Number)
4. Is your center accessible during the rainy season?
[ ] Yes
[ ] No

5. Does your center have a stock monitoring system?
[ ] Yes
[ ] No

Section H: Perception and Suggestions

1. How would you rate the adequacy of the supply system?
[ ] Very good
[ ] Good
[ ] Fair
[ ] Poor

2. What is the major challenge in maintaining dialysis continuity? (Paragraph answer)

3. What interventions would you suggest to improve supply reliability? (Paragraph answer)

Data Analysis Alignment

Availability indices (Sections C, D)
Operational reliability (Sections B, G)
Clinical outcomes (Section F)

Mortality Rate = (Deaths / Total patients) × 100
Improvement Rate = (Improved / Total patients) × 100
Attrition Rate = ((Transferred + Lost) / Total patients) × 100